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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,150	01/19/2006	Pieter Willem Jedeloo	NL030882	7335

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EXAMINER	
HSIEH, PING Y	

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
10/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,150	JEDELOO, PIETER WILLEM	
	Examiner	Art Unit	
	PING Y. HSIEH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/20/09 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-3, 5-7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodim (U.S. PATENT NO. 7,005,940) in view of Tanaka et al. (U.S. PG-PUB NO. 2003/0008693).

-Regarding claims 1, 11 and 12, Kodim discloses antenna switch which is arranged to alternately operate in a receive mode and a transmit mode **(antenna switch 10 as disclosed in fig. 3a)**, the antenna switch comprising an adaptive filter **(multiband transformation stage 14 as disclosed in fig. 3a)** for coupling a signal processing means to an antenna during the receive mode **(an input/output port configured as antenna port 22 are each coupled to a node 24 as disclosed in fig. 3a and further disclosed in col. 7 lines 9-10)** and for electrically insulating the signal processing means from the antenna (1) during the transmit mode **(in the high-band transmit mode, the short circuit at node 52 is transformed by the first transmission line T1 to an open circuit at the first signal port 20 of the multiband transformation stage 14 and consequently, the low-power stage 16 remains isolated from the high power stage 12 and the antenna port 22 as disclosed in fig. 3a and col. 8 lines 27-44)**, wherein the adaptive filter has a first passband during the transmit mode **(multiband transformation stage 14 includes a first transmission line T1, which is configured to have approximately a quarter-wavelength characteristic for the two frequency bands of 1800 MHz and 1900 MHz corresponding to GSM 1800 and GSM 1900 as disclosed in fig. 3a and further disclosed in col. 7 lines 32-58)** and a second passband during the

receive mode **(in the receive GSM 900/GSM 1800/GSM 1900 mode as disclosed in fig. 6 and col. 8 lines 20-25, both D1 and D2 are off, and therefore the passband for transmission lines T1 and T2 is wideband)**. However, Kodim does not specifically disclose the first passband is a band-pass passband.

Tanaka et al. disclose a band-pass filter for transmitting port in fig. 1 and paragraph 30.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the multiband transformation stage 14 of Kodim to include the features as disclosed by Tanaka et al. One is motivated as such in order to attenuate harmonics generated at the power amplifier.

-Regarding claim 2, the combination further discloses the signal processing means are electrically insulated from the antenna by controllably configuring the adaptive filter such that the adaptive filter is coupled between the antenna and ground during the transmit mode **(Kodim, as disclosed in fig. 3a and col. 8 lines 27-44)**.

-Regarding claim 3, the combination further discloses the adaptive filter is a high-impedance filter during the transmit mode **(Kodim, as disclosed in fig. 3a and col. 8 lines 27-44)** and a low-impedance filter during the receive mode **(Kodim, as disclosed in fig. 3a and col. 9 lines 49-55)**.

-Regarding claim 5, although the combination does not specifically disclose the second passband is a highpass passband, it would have been

obvious to one of ordinary skills in the art at the time of invention to do so in order to keep the operation in the desired frequency bands only and to reduce interference to other users.

-Regarding claim 6, the combination further discloses a switch device through which the signal processing means is coupled to the adaptive filter **(Kodim, low power stage 16 as disclosed in fig. 3a and further disclosed col. 8 lines 3-6)**.

-Regarding claim 7, the combination further discloses the switch device is a low-power switch device **(Kodim, see col. 6 lines 1-17)**.

-Regarding claim 10, the combination further discloses switching devices **(Kodim, D1 and D2)** to change the geometry of the adaptive filter **(Kodim, multiband transformation stage 14 as disclosed in fig. 3a)**.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kodim (U.S. PATENT NO. 7,005,940) in view of Tanaka et al. (U.S. PG-PUB NO. 2003/0008693) and further in view of Phillips et al. (U.S. PATENT NO. 6,765,536).

-Regarding claim 8, the combination of Kodim and Tanaka et al. teaches all the limitations as claimed in claims 1, 6 and 7. However, the combination does not specifically disclose the low-power switch device is a low-power pHEMT.

Phillips et al. disclose the switching device can be pHEMT as disclosed in col. 4 lines 33-50.

Therefore, it would have obvious to one of ordinary skills in the art at the time of invention to modify the low-power switch to be a pHEMT. One is motivated as such in order to provide low noise and high gain.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kodim (U.S. PATENT NO. 7,005,940) in view of Tanaka et al. (U.S. PG-PUB NO. 2003/0008693) and further in view of Fukamachi et al. (U.S. PG-PUB NO. 2004/0266278).

-Regarding claim 9, the combination of Kodim and Tanaka et al. teaches all the limitations as claimed in claim 1. However, the combination does not specifically disclose the adaptive filter is further arranged to provide electrostatic discharge protection.

Fukamachi et al. disclose electrostatic protection as shown in figs. 1-3 and further disclosed in paragraphs 81-92.

Therefore, it would have been obvious to one of ordinary skills in the art at the of invention to modify the antenna switch as disclosed by Kodim to include the electrostatic discharge protection as disclosed by Fukamachi et al. One is motivated as such in order to prevent the breakdown of high frequency parts by electrostatic surge.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3 and 5-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday~Thursday 8am ~ 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Y. H./
Examiner, Art Unit 2618

/Lana N. Le/
Primary Examiner, Art Unit 2614